# The Influence of Outbreak Cases on Trends in *E. coli* O157 Infection, FoodNet Sites, 1996-2002

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**Background** Since 1996, the Foodborne Diseases Active Surveillance Network (FoodNet) has conducted laboratory-based surveillance for selected culture-confirmed foodborne pathogens including *E. coli* O157 (O157). Consistent trends in incidence of O157 have been difficult to document due in part to wide annual fluctuations in case counts caused by outbreaks. To better assess underlying trends and monitor changes in the incidence of sporadic illness, FoodNet surveillance data were analyzed, excluding outbreak-associated cases of O157.

**Methods** Crude incidence for sporadic O157 was calculated by subtracting the number of outbreak-associated cases from overall case counts for each FoodNet site from 1996 through 2002. Each site used local criteria to report the number of outbreak-associated cases. Rates were calculated using intercensus estimates from 1996-1999; 2000 census data were used for rates from 2000-2002. A Poisson regression model was used to estimate the change in incidence from 1996 to 2002 using 1996 as the reference year.

**Results** A total of 3603 O157 cases were reported in the nine FoodNet sites between 1996-2002; 579 (16%) were outbreak-related. Overall incidence was 2.1 per 100,000. Average annual incidence was highest in Minnesota (4.3) and lowest in Georgia (0.64). When outbreak-associated cases were excluded, overall incidence was 1.8 per 100,000. No outbreak-associated cases were reported for 4 years in California and Connecticut, 3 years in Georgia and Tennessee, 2 years in Maryland, and 1 year in New York. The largest proportion of outbreak-associated cases was reported in Georgia (33% of cases in 1998), Oregon (41% in 2002), and New York (66% in 1999). Using the Poisson regression model, there was no significant reduction in O157 between 1996 and 2002 regardless of whether outbreak-associated cases were included or removed.

**Conclusions** A limitation of this study was variability in the definition of outbreak-associated cases. These findings suggest that despite removing outbreak-associated cases, there has been little change in the incidence of sporadic O157 infections in the last several years. Further efforts are needed to prevent transmission of O157 infections.